Trans-Lake Washington Project

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Evaluating the Benefits and Costs of Lidding in the SR 520 Corridor

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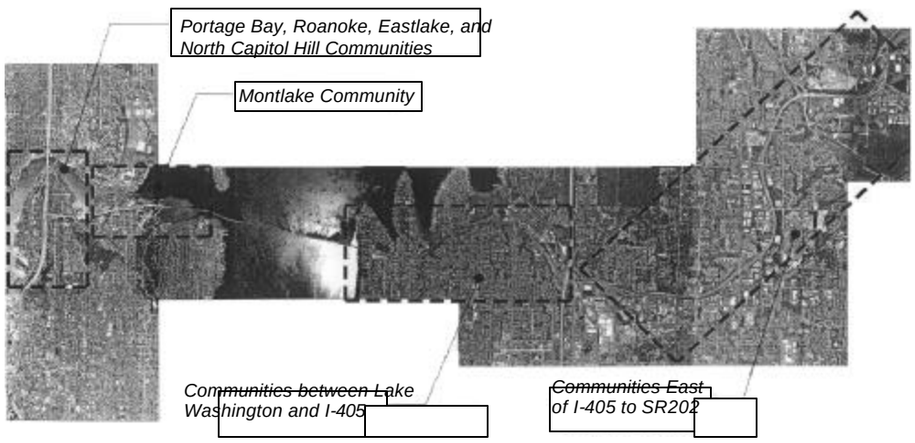
Geographic Focus of Lidding Evaluation

Lidding Options and Opportunities Evaluation



Parametrix, Inc.
and associated firms

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Definition and Evaluation Approach

- Incorporate community values into making SR 520 a better neighbor with the community & environment
- Evaluate community enhancements related to placing lids throughout the study area by assessing:
  - neighborhood connectivity
  - aesthetics
  - noise
  - air quality
  - costs

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What do We Want to Accomplish Today?

- Familiarize committee's with basic approach and rationale for lid sizing
- Outline benefits and costs of each lid
- Incorporate committee input into framing recommendations (June 13)

Sizing Approach

- Three different lidding concepts examined in each geographic area:
  - **Concept 1** – Expanded bridges
  - **Concept 2** – Lids in topographic areas that support lidding
  - **Concept 3** – Community suggestions

Concept 1 – Expanded Bridges

Example of a widened bridge (NE view of East Mercer Way, Mercer Island, WA)

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Specific Lidding Concept Development

- Factors Influencing Size Concepts Varied in Each Location
  - Topography
  - Existing roadway/overcrossings and geometrics
  - Opportunities to increase connectivity
  - Character of geographic area
  - Ventilation and fire suppression
  - Cost effectiveness

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Additional Considerations

- What other methods achieve community values?
- Should the lids be allowed to protrude above ground?
- Impacts at portals and ventilation facilities.
- How much are we willing to spend?

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Eastlake/Portage Bay/Roanoke/North Capitol Hill Neighborhoods Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - I-5 Roanoke Street Vicinity
    - Size driven by elevation of I-5
    - Approximately 2 ¾ Acre
    - Portions up to 10-feet above Boylston Avenue
    - Opportunities for landscaping and open space

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Eastlake/Portage Bay/Roanoke/North Capitol Hill Neighborhoods Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - SR 520 I-5 to 10th Avenue East
    - Configuration due to I-5 ramps
    - Approximately 1 ¾ Acre
    - Ventilation/fire suppression required
    - Increased opportunities for landscaping/open space
    - Increased community connectivity for bikes and pedestrians

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Eastlake/Portage Bay/Roanoke/North Capitol Hill Neighborhoods Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - SR 520 10th Avenue East to Delmar Drive East
    - Size driven by adjacent topography
    - Nearly the same elevation as surrounding area
    - Approximately 3 acres
    - Ventilation/fire suppression required
    - Increased opportunities for landscaping/open space
    - Increased community connectivity for bikes and pedestrians

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Eastlake/Portage Bay/Roanoke/North Capitol Hill Neighborhoods Evaluation Concepts

- Concept 3 - Community Suggestions
  - I-5 Roanoke Street to Edgar Street and South of Boylston
    - Increases concept 2; I-5 lid area to 6 ½ acres
    - Approaches 20-feet above Boylston at ends
    - Can not connect Edgar Street across I-5
    - Greater opportunity for open space
    - Ventilation/fire suppression required

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Montlake Neighborhoods Evaluation Concepts

– Concept 2 - Lids in Topographic Areas that Support Lidding
  - Approximately 2 ¼ acres
  - Configuration dependent on I/C layout
  - Generally does not protrude above existing ground
  - Opportunity for improved transit environment
  - Increased opportunity for open space
  - Ventilation/fire suppression required

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Montlake Neighborhoods Evaluation Concepts

– Concept 3 - Community Suggestions
  - Provides 8 ¼ acres
  - Improves transit and open space opportunities
  - Could be 40-feet to 70-feet above the lake elevation
  - Modest improvement to community connectivity
  - Ventilation/fire suppression required

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - Evergreen Point Road Area
    - Concept 2a
      - » Approximately 4 ¾ acres
      - » Increased opportunities for landscaping/open space
      - » Requires depressing the roadway 5 to 10-feet
      - » Protrudes up to 15 feet at ends
      - » Improved community connectivity
      - » Requires ventilation/fire suppression

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - Evergreen Point Road Area
    - Concept 2b
      - » Approximately 8 ½ acres
      - » Significantly increases landscaping/open space
      - » Requires depressing the roadway 5 to 10-feet
      - » Protrudes 15 to 20 feet at ends over a greater distance
      - » Requires ventilation/fire suppression

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - 84th Avenue NE Area
    - Concept 2a
      - » Approximately 7 ½ acres
      - » Requires depressing the roadway 5 to 10 feet
      - » Protrudes about 15-feet at portals
      - » Provides opportunities for landscaping/open space
      - » Provides community connectivity
      - » Ventilation/fire suppression required

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - 84th Avenue NE Area
    - Concept 2b
      - » Approximately 10 ¼ acres
      - » Requires depressing the roadway 5 to 10 feet
      - » Protrudes about 15 to 20 feet for 1000± feet on east and 100± feet on west
      - » More opportunities for landscaping/open space
      - » Ventilation/fire suppression required

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - 92nd Avenue NE Area
    - Concept 2a
      - » Approximately 7 acres
      - » Requires some depression of the roadway
      - » Good community connectivity without protrusions
      - » Opportunities for landscaping/open space
      - » Ventilation/fire suppression required

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 2 - Lids in Topographic Areas that Support Lidding
  - 92nd Avenue NE Area
    - Concept 2b
      - » Approximately 13 ½ acres
      - » Requires depressing the roadway about 10-feet
      - » Results in 10 to 20 foot protrusions at ends
      - » Increased opportunities for landscaping/open space
      - » Ventilation/fire suppression required

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 3 - Community Suggestions
  - Continuous Lid Structure from Lake Washington to west of Bellevue Way NE
    - Approximately 55 to 60 acres
    - Requires depressing several areas of the roadway 20± feet
    - Even with depressed road, several significant areas protrude above adjacent ground
      - » Between Evergreen Point Road and 84th about 1400 feet are 10 to 20 feet above ground
      - » Between 84th and 92nd about 1600 feet are 20 to 40 feet above ground
      - » Between 92nd and Bellevue Way about 2400 feet are 20 to 30 feet above ground

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Lake Washington to West of I-405 Evaluation Concepts

- Concept 3 - Community Suggestions continued
  - Community connectivity is inhibited by protruding lids
  - Depressing roadway further loses ability to maintain interchange connections and causes severe grade problems on the ramps.
  - Requires significant ventilation and fire suppression facilities

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East of I-405 to SR 202

- Concept 1 - Expanded Bridges
  - No expanded bridges have been proposed in this area
- Concept 2 - Lids in Topographic Areas that Support Lidding
  - No areas have been identified under this concept
- Concept 3 - Community Suggestions
  - Lids were suggested in the vicinity of NE 40th Street and NE 31st Street
  - Approximate size would be 800 feet and 400 feet for each respective street
  - Likely require mechanical ventilation and fire suppression

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What We Are Trying to Accomplish With Each Lid

In Summary:

- Strengthen neighborhood connectivity
- Maintain or enhance the visual environment
- Reduce noise
- Cost effectiveness